

## REMARKS

### **Amendments To The Specification**

Applicants have carefully considered the rejections raised in the Action dated February 15, 2005. As a result, the specification including claims have been amended to comply with the Examiner's requirements as outlined hereinbelow.

The drawings have been objected to for not showing the features of claim 7, namely the ground electrode including a plurality of sections of a cylindrical electrode with each section being separately or jointly grounded. Responsively new Figures 2a and 2b have been added which show cross sections of Figure 2 showing these features, with Figure 2a showing the ground electrode sections being jointly grounded, and Figure 2b showing the ground electrode sections being separately grounded. Figure 2 has also been revised to show lines A-A of its cross section. In view of the new Figures, description page 8 (in Brief Description of Drawing) and page 10 have been amended to add a reference to Figures 2a and 2b.

The claims have been amended to more particularly point out and claim the present invention. Particularly, claim 1 has been amended to recite "the ground electrode having a second surface area larger than the first surface area such that when a high voltage is applied to the high voltage electrode, an electrical field produced in a vicinity of the ground electrode is sufficiently low enough to prevent arc discharging occurring in the vicinity of the ground electrode in the chamber".

This amendment is fully supported in the description, for example on page 13, lines 8 to 12. It is noted also that original claim 1 contained this feature of the ground electrode having a surface area larger than the high voltage electrode to

### **Amendments to the Drawings**

The attached replacement drawing sheet has been revised to delete Figure 2 therefrom. This sheet, which includes Figure 1c, replaces the original sheet including Figure 1c and Figure 2.

The attached new sheet of drawing includes changes to Figure 2, and adds new Figures 2a and 2b.

Attachment: Replacement Sheet containing Figure 1c

New Drawing Sheet containing Figures 2, 2a and 2b

avoid arc discharging but claim 1 has been amended to more positively recite this limitation.

The Summary of Invention in the description pages has also been amended to reflect the above-mentioned amendments to the claim 1.

### **Patentability of the Claims Over the Cited References**

Claims 1-4 have been rejected under 35 U.S.C. § 102(b) as being anticipated by the reference United States Patent No. 4,805,069 issued to Nagasaka et al. Reconsideration of the grounds for rejection under 35 U.S.C. § 102(b) is respectfully solicited for the following reasons.

On April 22, 2005, applicant Jesse Zhu met with Examiners Darren Gorman and Dinh Nguyen, Canadian patent agent Lynn C. Schumacher and US patent agent Ralph Dowel at the USPTO. A copy of the Interview Summary is attached hereto. Applicant and his agents would like to thank Examiners Gorman and Nguyen for taking the time to meet with them. At the meeting, the applicant discussed the differences between the present claims and the teachings of the cited reference.

Briefly, it was discussed that the claims of the present invention are directed to an apparatus for spraying powder coatings which uses a high voltage electrode which is essentially a pin and a ground electrode in which the ground electrode has a higher surface area than the high voltage electrode, as disclosed on page 12, lines 6 to 7 and page 13, lines 8 to 12.

The Examiner has taken the position that Nagasaki discloses the subject matter of claim 1 and has asserted that "it appears that the surface area of the grounded electrode 4 in Figure 3, is larger than the surface area of the high voltage electrode 3. As pointed out at the interview, there is no clear or explicit teaching in Nagasaki of Applicants' invention, namely that the ground electrode

has a larger surface area than the high voltage electrode in order to reduce or eliminate arc discharging. As discussed, Nagasaki et al. is directed to a powder discharge apparatus that uses essentially a pin-to-pin configuration, which is a typical configuration in prior art devices. The Examiner has pointed out that column 6, lines 25 to 35 teach the high voltage electrode is thin and the opposite polarity electrode is thick. Applicants respectfully note that this does not indicate the relative surface areas. For example, the entire surface area of the cylindrical wire electrode 3 appears to be exposed to the plasma while only the end tip of the “thick” opposite polarity electrode appears to be exposed, so in fact depending on the relative difference in thickness (which is not disclosed at all), it is entirely possible that the high voltage electrode (3), while thinner than the opposite polarity electrode (4), may in fact have a higher surface area than electrode 4. Further, if it can be argued that Figure 3 shows a ground electrode with a higher surface area than the high voltage electrode (which Applicant disagrees with), then it could be argued that some of the other Figures show the opposite. For example in Figure 12 the wire shaped surface electrode 3X arguably could have a larger surface area than the ground electrode 4.

Nevertheless, there is no teaching whatsoever in Nagasaki that arc discharging can be avoided by using a ground electrode of higher surface area than the high voltage electrode.

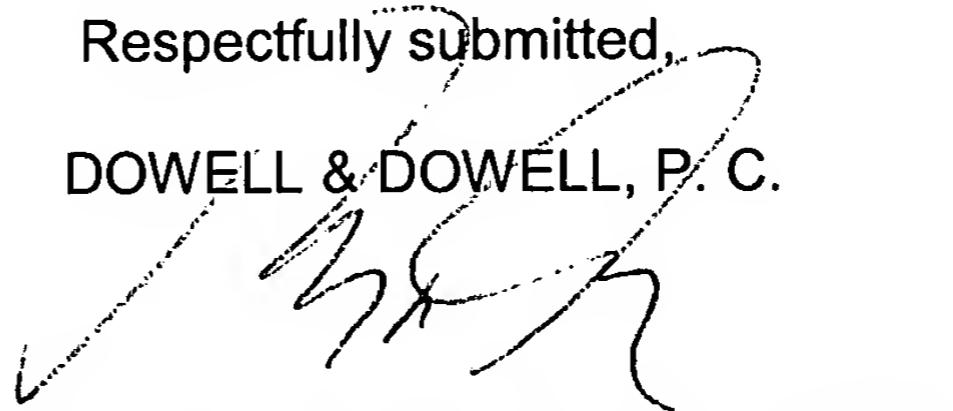
In view of these quite distinct differences, Applicants respectfully submit the subject matter of claims 1 to 4 is not disclosed in Nagasaki or any of the other cited references.

In view of the foregoing, reconsideration and withdrawal of the rejections of claims 1 to 4 is respectfully solicited and favorable consideration and allowance of claims 1 to 4 is requested. Applicants acknowledge that the Examiner has indicated claims 5-12 recite patentable subject matter.

## **REQUEST FOR ACTION ON THE MERITS—NON-ELECTERD SPECIES**

As claim 1 is believed allowable as amended, applicant specifically requests consideration on the merits of all claims directed to the remaining non-elected species which are dependent from claim 1, either directly or indirectly. This includes claims 13-30 and 43-47. In addition, consideration of claim 31 and the claims that depend there from is also requested. Claim 31, although previously withdrawn, is submitted as being “currently amended” so as to include the amended language introduced into claim 1. In light of this amendment, claim 31 and claims 32-42 that depend there from, should now be examined on the merits.

Should the Examiner have any questions regarding the allowability of the claims with respect to the art, it would be appreciated if the Examiner would contact the undersigned attorney-of-record at the telephone number shown below for further expediting the prosecution of the application.

Respectfully submitted,  
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Date: May 16, 2005

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